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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,215	06/26/2003	Konstantin Zuev	76,U08	4327
53418 7590 05/27/2010 HAHN AND MOODLEY, LLP 548 Market Street San Francisco, CA 94104				
EXAMINER				
CARTER, AARON W				
ART UNIT		PAPER NUMBER		
2624				
NOTIFICATION DATE		DELIVERY MODE		
05/27/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/603,215

**Applicant(s)**

ZUEV ET AL.

**Examiner**

AARON W. CARTER

**Art Unit**

2624

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11-14, 16, 18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 5 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6-9, 11-13, 16, 18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This action is responsive to papers filed on 4/26/10.

***Response to Amendment***

2. In response to applicant's amendment received on 4/26/10, all requested changes to the claims have been entered. Claim 20 has been added. Claim 19 has been cancelled. Currently claims 1-9, 11-14, 16, 18 and 20 are pending.

***Response to Arguments***

Applicant's arguments filed 4/26/10 have been fully considered but they are not persuasive.

3. In regards to the objection to the specification Applicant's argue that support for amendments to the specification made on 8/20/09 are found in the original claims.

The Examiner disagrees and the objection to the specification is maintained below. The specific amendment in question is "(c) rotating the form image by 90°, and repeating step (c);". As admitted by the Applicant the original claims support rotating by 90° and returning to the previous step, which would be step (b) in the amendments to the specification made on 8/20/09. The Examiner suggests amending the specification in the same manner claim 1 was amended on 4/26/10 to state ""(c) rotating the form image by 90°, and repeating step (b);".

4. As to claim 1, Applicants argue that the prior art of Lorie does not teach or fairly suggest performing character orientation method "during pre-recognition analysis". It appears that the Applicants are stating that "pre-recognition" in the claim is meant to refer to a pre-optical character recognition state.

Based on the claims language and the specification the Examiner is interpreting the claim to state that the steps of assigning a graphic image of a form image to be used in spatial orientation and creating a model of that are done before recognizing the spatial orientation on an input form by performing steps (a) - (c). In the claims and the specification it appears that the "pre-recognition analysis" is referring to analysis carried out before input form spatial orientation recognition. With that said, the Examiner feels that both limitations of preliminary assigning and creating during pre-recognition analysis are disclosed by Lorie in Fig. 1, elements 10-13 and column 4, line 58 - column 5, line 25, wherein each classifier used in elements 10-13 is trained prior to execution of the text spatial orientation recognition analysis.

5. As to claim 1, Applicant's argue that the prior art of Lorie does not teach or fairly suggest "preliminarily creating at least one spatial orientation model of the said graphic image".

The Examiner disagrees. The "conventional confidence recognition engine" has to be created preliminarily and includes at least one spatial orientation model of the text to which future form image text blocks are compared.

6. As to claim 1, Applicant's argue that the prior art of Lorie does not teach or fairly suggest "rotating the image by 90°".

The Examiner disagrees and the rejection is maintained. The Applicant' refer to one example in the arguments when stating that the prior art of Loric rotates by 180°. Loric discloses that the rotation amount is variable, including a single degree, a fraction of a degree or multiple degree orientation rotations, please refer to the column 5, lines 34-48 and column 4, lines 48-57.

#### ***Election/Restrictions***

7. Claims 2, 4, 5 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/12/09.

#### ***Specification***

8. The amendment filed 8/20/09 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Regarding the amendment to page 8 starting with line 24, nothing the original disclosure mentions the new matter of "(c) rotating the form image by 90°, and **repeating step (c)**; in the case of said comparison between the detected graphic image and the spatial orientation model yielding a match that is below a predetermined level". If the original claims, filed 7/26/03, are considered part of the original disclosure they would only support "returning to the previous step in the case of the image identification reliability level on the previous step being lower then the

predetermined level thereof" or in other words returning to step (b) in the most recently presented claims.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1, 3, 6-9, 11-13, 16, 18 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 1, in line 8, the phrase "determining the spatial orientation of each region of the parsed form image" is not supported by the specification, original claims or the drawings filed. In an attempt to overcome the 112(2<sup>nd</sup>) rejection made in the previous office action, mailed on 12/24/09, the limitation in question was amended to state that the spatial orientation of each parsed region of the form image is determined. However, the original specification and claims do not appear to support this amendment and neither appears to state any reason for parsing the form image into regions containing text objects, data input fields, special reference points, lines

and other objects. Claims 3, 6-9, 11-13, 16, 18 and 20 are rejected by the virtue of their dependency upon claim 1.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 3, 7, 8, 11, 16, 18 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,993,205 to Lorie et al. (“Lorie”) (already of record).

As to claim 1, Lorie discloses a method for a machine to perform machine-readable form analysis comprising:

preliminarily assigning at least one form object as a graphic image for identification of a spatial orientation of a form during pre-recognition analysis (*Fig. 1, elements 10-13 and column 4, line 58 - column 5, line 25, wherein at least one text character is known and assigned as a graphic image for identification of spatial orientation of a form image before spatial orientation of a form image is recognized*),

preliminarily creating at least one spatial orientation model of the said graphic image for identification of the spatial orientation of the form during pre-recognition analysis (*Fig. 1,*

*elements 10-13 and column 4, line 58 - column 5, line 25, wherein a spatial orientation model of the at least one text character is created and known before spatial orientation of an newly acquired form image can be recognized),*

*parsing a form image into regions (column 4, lines 58-63, wherein an input form image is parsed into text blocks),*

*determining the spatial orientation of each region of the parsed form image (column 4, lines 51-52), comprising:*

*detecting on the form image at least one of said graphic images for identification of the spatial orientation of the form (column 4, lines 58-63, wherein text blocks from an input form image correspond to graphic images for identification of spatial orientation of the form);*

*(b) determining the spatial orientation of the form image based on a comparison of the detected graphic image with the spatial orientation model (Fig. 1, elements 10-14),*

*(c) rotating the form image by 90°; and repeating step (b) in the case of said comparison between the detected graphic image and the spatial orientation model yielding a match that is below a predetermined level (Fig. 1, element 15 and column 5, lines 34-48 and column 4, lines 48-57).*



As to claim 3, Loric discloses the method as recited in claim 1, wherein determining the spatial orientation comprises setting up and examining hypotheses and corresponding matching reliability estimations (*Fig. 1, elements 11-14*).

As to claim 7, Loric discloses the method as recited in claim 1, wherein the at least one form object assigned as a graphic image comprises a text image (*Fig. 1, element 10 and column 4, lines 58-63, wherein text corresponds to the graphic image which part of the pre-trained character recognition engine*).

As to claim 8, Loric discloses the method as recited in claim 7, wherein text in said text image is additionally recognized as a first step in the pre-recognition analysis (*Fig. 1, element 10 and column 4, lines 58-63*).

As to claim 11, Loric discloses the method as recited in claims 1, wherein assigning comprises assigning a group of graphic images (*Fig. 1, element 10 and column 4, lines 58-63, wherein the character recognition engine is assigned with multiple characters that may be recognized which correspond to a group of graphic images*).

As to claim 16, Lorie discloses the method as recited in claims 11, wherein the entire group of graphic images is used for determining the spatial orientation (*Fig. 1, element 10 and column 4, lines 58-63*).

As to claim 18, Lorie discloses the method as recited in claim 1, wherein the said spatial orientation model is stored in a form model description (*Fig. 1, element 10 and column 4, lines 58-63, wherein the character recognition engine corresponds to a form model description*).

As to claim 20, Lorie discloses the method as recited in claim 1, wherein the form image is parsed into the regions containing at least one of text objects images, data input fields, special reference points, and lines (*column 4, line 58-63, wherein text blocks corresponds to text objects images*).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,993,205 to Lorie et al. ("Lorie") (already of record) in view of USPN 5,461,459 to Muramatsu et al. ("Muramatsu").

As to claim 9, Lorie discloses the method as recited in claim 8.

Lorie does not disclose expressly wherein the recognized text is used as supplementary data in a form type definition process.

However, Muramatsu discloses recognizing text in a pre-recognition process (*Fig. 22, element S71*) and wherein the recognized text is used as supplementary data in a form type definition process (*Fig. 22, element S72, wherein landscape or portrait orientation corresponds to form type*).

Lorie & Muramatsu are combinable because they are from the same art of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to employ the technique of using recognized text is used as supplementary data in a form type definition process, as taught by Muramatsu, with the method for machine-readable form pre-recognition analysis disclosed by Lorie.

The suggestion/motivation for doing so would have been accurate document orientation recognition (*Muramatsu, column 1, line 63 - column 2, line 13*).

Therefore, it would have been obvious to combine Lorie with Muramatsu to obtain the invention as specified in claim 9.

***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON W. CARTER whose telephone number is (571)272-7445. The examiner can normally be reached on 9am - 5:30 pm (Mon. - Fri.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron W Carter/  
Primary Examiner, Art Unit 2624